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IN THE CLAIMS

Please consider the claims as follows:

1. (currently amended) An optical communication system, ~~arranged to transmit input data from a transmitter to a remote receiver, said system comprising;~~

a transmitter, including;

a means for modulating an optical carrier in a sequence of return-to-zero (RZ) pulses;

a modulator for modulating an optical phase of said pulses in accordance with an input digital data stream to form an optical phase modulated signal; and

a means for applying the optical phase modulated signal to a dispersion managed optical transmission link;

~~means for encoding said input data by modulating the phase of a RZ carrier in accordance with said input data, and~~

~~means for transmitting said phase modulated RZ carrier from said transmitter to said receiver via~~

a dispersion managed optical transmission medium[.]; and

a receiver of the optical phase modulated signal.

2. (currently amended) A optical communication system comprising;

a means for generating an RZ modulating an optical carrier signal, in a sequence of return-to-zero (RZ) pulses;

a modulator means for modulating [(the)] an optical phase of said RZ carrier signal pulses in accordance with an input digital data stream[.], to form an optical phase modulated signal; and

a means for applying the phase modulated said signal generated by said modulating means to a dispersion managed optical transmission link.

3. (cancelled)

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4. (currently amended) The invention defined in claim 2 ~~[[3]]~~ wherein said modulator is a phase shift keying (PSK) ~~[[PSK]]~~ modulator.
5. (currently amended) The invention defined in claim 2 ~~[[3]]~~ wherein said modulator is a differential phase shift keying (DPSK) ~~[[DPSK]]~~ modulator.
6. (currently amended) The invention defined in claim 2 ~~[[3]]~~ wherein said modulator is a quadrature phase shift keying (QPSK) ~~[[QPSK]]~~ modulator.
7. (currently amended) The invention defined in claim 1 ~~[[3]]~~ wherein said ~~dispersion managed optical transmission~~ medium is a long haul transmission medium adapted for the transmission of transmitting solitons.
8. (currently amended) The invention defined in claim 1 ~~[[3]]~~ wherein said ~~dispersion managed optical transmission~~ medium is adapted for transmitting ~~arranged to use quasi-linear transmission with very short (compared to the bit period) pulses that disperse very quickly as they propagate along said transmission~~ the medium.
9. (currently amended) The invention defined in claim 1 ~~[[3]]~~ ~~wherein said ~~[[RZ]] optical carrier has a first wavelength, and wherein said~~~~ transmitter arrangement further includes a wavelength division multiplexer ~~arranged~~ adapted to combine ~~[[the]]~~ an output signal of said modulator with other optical phase modulated signals having optical ~~[[RZ]]~~ carriers with different wavelengths.
10. (currently amended) The invention defined in claim 2 ~~[[3]]~~ wherein said modulator is a LiNbO3 phase modulator.
11. (currently amended) The invention defined in claim 2 ~~[[3]]~~ wherein said modulator is a LiNbO3 Mach-Zehnder phase modulator.

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12. (currently amended) The invention defined in claim 1 ~~[[3]]~~ wherein said receiver remote location includes a delay demodulator.

13. (currently amended) The invention defined in claim 1 ~~[[3]]~~ wherein said receiver remote location includes a balanced receiver for recovering said input data from ~~[[said]]~~ the phase modulated signal.

14. (cancelled)

15. (currently amended) The invention defined in claim 1 ~~[[14]]~~ wherein said transmission medium amplifying means includes discrete or distributed means of erbium-doped fiber amplification (EDFA) [[EDFA]] or Raman amplification.

16. (currently amended) A method of [[An]] optical communications, communication method for transmitting input data from a transmitter to a remote receiver, comprising the steps of:

modulating an optical carrier signal in a sequence of return-to-zero (RZ) pulses;

modulating an optical phase of said pulses in accordance with an input digital data stream to form an optical phase modulated signal;

applying said signal to a dispersion managed optical transmission link; and

encoding said input data by modulating the phase of a RZ carrier in accordance with said input data, and

transmitting said signal to a designated receiver phase-modulated RZ carrier from said transmitter to said receiver via a dispersion managed optical transmission medium.

17-18. (cancelled)